MARKED UP VERSION OF CLAIMS

1 1. (Amended) A method for performing a database operation, comprising the

2   computer-implemented steps of:

3   receiving, **at a database server,**[1] a database query that specifies an operation for

4   manipulating data;

5   in response to receiving said database query, **the database server executing the query**

6   **by**[2] performing the[3] steps of,[4] **that include:**[5]

7   retrieving data from a relational structure;

8   storing the data in a non-relational structure that can be addressed as a multi-dimensional

9   array; and

10   performing said operation specified in the database query on said data.

1 2. (Not Amended) The method of Claim 1, wherein the step of storing the data

2   in a structure comprises the step of storing the data in a structure that can be

3   symbolically addressed as an n-dimensional array.

1 3. (Not Amended) The method of Claim 1, further comprising the step of

2   presenting in tabular format results from performing said operation.

1 4. (Not Amended) The method of Claim 1, wherein the step of performing said

2   operation comprises the step of automatically reordering the specified

3   operations to allow the operation to be correctly performed on said data

4   stored in said non-relational structure.

1 5. (Not Amended) The method of Claim 1, wherein the step of performing said

2   operation comprises the step of aggregating over a set of data information

3   contained in multiple cells of said non-relational structure.

1   6.   (Not Amended) The method of Claim 1, wherein the step of performing said

2   operation comprises the step of repeatedly performing a series of

3   manipulations on said data until a particular criterion is satisfied.

1   7.   (Amended) A method for processing database query operations, comprising

2   the computer-implemented steps of:

3   ~~in response to~~[6] **a database server**[7] receiving a database query that ~~specifies an operation~~

4   ~~for manipulating data~~[8]~~, performing the steps of,~~[9]**:**[10]

5   ~~referencing~~[11]**references**[12] data in a relational structure as if the data was stored in

6   a multi-dimensional array~~;~~[13]**,**[14] **and**[15]

7   ~~retrieving the data from said relational structure; and~~[16]

8   **specifies an operation for manipulating data**[17]**; and**[18]

9   **in response to**[19] **receiving said database query the database server executing the**

10   **query by performing steps that include:**[20]

11   **retrieving the data from said relational structure;** [21]

12   performing said operation previously specified in said database query.[22]

1   8.   (Amended) The method of Claim 7, wherein:

2   the step of receiving a database query ~~that specifies an operation~~[23] comprises the step of

3   receiving a ~~multi-dimensional array operation; and~~[24] ~~the step of referencing data~~

4   ~~in~~[25] **database query that specifies**[26] a~~relational structure comprises the step of~~

5   ~~referencing said data using said~~[27] multi-dimensional array operation.

1   9.   (Not Amended) The method of Claim 7, wherein the step of retrieving the

2   data comprises the step of retrieving the data from one or more relational

3   database tables.

1   10.   (Not Amended) The method of Claim 7, further comprising the step of

2   storing said data in a non-relational structure; and

3   wherein the step of performing said operation comprises the step of performing said

4   operation in reference to said data stored in said non-relational structure.

1 11. (Not Amended) The method of Claim 7, wherein the step of performing said

2 operation comprises the step of repeatedly performing a series of

3 manipulations on said data until a particular criteria is satisfied.

1 12. (Amended) A method for processing database query operations, comprising

2 the computer-implemented steps of:

3 ~~in response to~~[28] **a database server**[29] receiving a database query that specifies an operation

4 for manipulating data,[30]**; and**[31]

5 in response to[32] **receiving the database query, the database server**[33] performing the

6 steps of,[34]**:**[35]

7 retrieving a first set of data from a first relational structure;

8 storing the first set of data in a non-relational structure; and

9 manipulating the first set of data by performing the operation previously specified

10 in the database query.

1 13. (Not Amended) The method of Claim 12, wherein the step of retrieving a

2 first set of data from a first relational structure comprises the step of

3 retrieving said first set of data from a relational database.

1 14. (Not Amended) The method of Claim 13, wherein the step of retrieving said

2 first set of data from a relational database comprises the step of retrieving

3 said first set of data from one or more tables within said a relational

4 database.

1 15. (Not Amended) The method of Claim 12, wherein the step of storing the

2 first set of data in a non-relational structure comprises the step of storing the

3 first set of data within a spreadsheet application.

1 16. (Not Amended) The method of Claim 12, wherein the step of storing the

2 first set of data in a non-relational structure comprises the step of storing the

3 first set of data in a non-relational database application.

1 17. (Not Amended) The method of Claim 12, wherein the step of storing the
2   first set of data in a non-relational structure comprises the step of storing the
3   first set of data within an n-dimensional array data structure.

1 18. (Amended) The method of Claim 12, wherein the step of manipulating the
2   first set of data comprises the steps of symbolically addressing the first set
3   of data as **an** ^{36} n-dimensional array information.

1 19. (Not Amended) The method of Claim 12, further comprising the step of,
2   after performing the step of manipulating the first set of data, storing in a
3   second relational structure, result information based on performance of said
4   operation.

1 20. (Not Amended) The method of Claim 12, wherein the step of manipulating
2   the first set of data comprises the step of repeatedly performing a series of
3   manipulations on said first set of data until a particular criteria is satisfied.

1 21. Cancelled.
1 22. Cancelled.
1 23. Cancelled.
1 24. Cancelled.
1 25. Cancelled.
1 26. Cancelled.
1 27. Cancelled.
1 28. Cancelled.
1 29. Cancelled.
1 30. Cancelled.
1 31. Cancelled.
1 32. Cancelled.
1 33. Cancelled.
1 34. Cancelled.
1 35. Cancelled.

1 36. Cancelled.

1 37. Cancelled.

1 38. Cancelled.

1 39. Cancelled.

1 40. Cancelled.

1 41. (New) A computer-readable medium carrying one or more sequences of

2   instructions which, when executed by one or more processors, causes the

3   one or more processors to perform the method recited in Claim 1.

1 42. (New) A computer-readable medium carrying one or more sequences of

2   instructions which, when executed by one or more processors, causes the

3   one or more processors to perform the method recited in Claim 2.

1 43. (New) A computer-readable medium carrying one or more sequences of

2   instructions which, when executed by one or more processors, causes the

3   one or more processors to perform the method recited in Claim 3.

1 44. (New) A computer-readable medium carrying one or more sequences of

2   instructions which, when executed by one or more processors, causes the

3   one or more processors to perform the method recited in Claim 4.

1 45. (New) A computer-readable medium carrying one or more sequences of

2   instructions which, when executed by one or more processors, causes the

3   one or more processors to perform the method recited in Claim 5.

1   46.   (New) A computer-readable medium carrying one or more sequences of

2   instructions which, when executed by one or more processors, causes the

3   one or more processors to perform the method recited in Claim 6.

1   47.   (New) A computer-readable medium carrying one or more sequences of

2   instructions which, when executed by one or more processors, causes the

3   one or more processors to perform the method recited in Claim 7.

1   48.   (New) A computer-readable medium carrying one or more sequences of

2   instructions which, when executed by one or more processors, causes the

3   one or more processors to perform the method recited in Claim 8.

1   49.   (New) A computer-readable medium carrying one or more sequences of

2   instructions which, when executed by one or more processors, causes the

3   one or more processors to perform the method recited in Claim 9.

1   50.   (New) A computer-readable medium carrying one or more sequences of

2   instructions which, when executed by one or more processors, causes the

3   one or more processors to perform the method recited in Claim 10.

1   51.   (New) A computer-readable medium carrying one or more sequences of

2   instructions which, when executed by one or more processors, causes the

3   one or more processors to perform the method recited in Claim 11.

1　52.　(New) A computer-readable medium carrying one or more sequences of

2　　　　instructions which, when executed by one or more processors, causes the

3　　　　one or more processors to perform the method recited in Claim 12.

1　53.　(New) A computer-readable medium carrying one or more sequences of

2　　　　instructions which, when executed by one or more processors, causes the

3　　　　one or more processors to perform the method recited in Claim 13.

1　54.　(New) A computer-readable medium carrying one or more sequences of

2　　　　instructions which, when executed by one or more processors, causes the

3　　　　one or more processors to perform the method recited in Claim 14.

1　55.　(New) A computer-readable medium carrying one or more sequences of

2　　　　instructions which, when executed by one or more processors, causes the

3　　　　one or more processors to perform the method recited in Claim 15.

1　56.　(New) A computer-readable medium carrying one or more sequences of

2　　　　instructions which, when executed by one or more processors, causes the

3　　　　one or more processors to perform the method recited in Claim 16.

1　57.　(New) A computer-readable medium carrying one or more sequences of

2　　　　instructions which, when executed by one or more processors, causes the

3　　　　one or more processors to perform the method recited in Claim 17.

1 58. (New) A computer-readable medium carrying one or more sequences of
2 instructions which, when executed by one or more processors, causes the
3 one or more processors to perform the method recited in Claim 18.

1 59. (New) A computer-readable medium carrying one or more sequences of
2 instructions which, when executed by one or more processors, causes the
3 one or more processors to perform the method recited in Claim 19.

1 60. (New) A computer-readable medium carrying one or more sequences of
2 instructions which, when executed by one or more processors, causes the
3 one or more processors to perform the method recited in Claim 20.